EXHIBIT A

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UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF NEW YORK

THE STATE OF TEXAS, et
al.,

    Plaintiffs,

     vs.   Case No. 12-CV-03394 (DLC)

PENGUIN GROUP (USA), INC.,
et al.,

    Defendants.
_____

This Document Relates to: Case No. 11-MD-02293 (DLC)

IN RE ELECTRONIC BOOKS
ANTITRUST LITIGATION.
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VIDEOTAPED DEPOSITION OF

ROGER G. NOLL, Ph.D.

November 1, 2013

Palo Alto, California

8:34 a.m.

By Reported:
WENDY E. ARLEN, CSR #4355, RMR, CRR
Job No: 32239

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09:16:05	1	MR. FRIEDMAN: Objection, form.
09:16:06	2	THE WITNESS: In terms of analyzing
09:16:11	3	anticompetitive impact, I did discuss the -- the
09:16:19	4	e-reader issue. There's little in here about
09:16:22	5	physical copies other than what it had to do with the
09:16:27	6	objective of a collusive agreement.
09:16:29	7	But, again, there's -- the analysis is based
09:16:32	8	on the information in the opinion. It's not based on
09:16:35	9	anything else.
09:16:35	10	Q. MR. SWANSON: Do you agree that a market that
09:16:39	11	is inextricably intertwined with the market in which
09:16:44	12	anticompetitive harm is alleged can be relevant for
09:16:47	13	purposes of analyzing anticompetitive harm?
09:16:51	14	A. Of course. I mean, that's -- when markets
09:16:54	15	are linked, they can have spillover. One activity in
09:16:58	16	one market can have a spillover effect in another
09:17:02	17	even though they're not in the same market. That's
09:17:04	18	what the whole e-reader analysis is about.
09:17:06	19	Q. So in your view, the e-reader business is
09:17:09	20	inextricably intertwined with the trade e-books
09:17:14	21	business?
09:17:14	22	A. Well, let me say what inextricably
09:17:19	23	intertwined means in this case, which is, the demand
09:17:22	24	for e-readers is dependent upon what's going on in
09:17:25	25	the e-books market. The price of e-books and

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09:17:28	1	availability of e-books determine the value of an
09:17:30	2	e-reader.
09:17:31	3	Q. Does the linkage work in both directions?
09:17:36	4	A. Yes.
09:17:37	5	Q. I take it you'd agree that it's not generally
09:17:40	6	possible to read an e-book without an electronic
09:17:43	7	device that can function as an e-reader?
09:17:45	8	A. Yes, although not all such devices are called
09:17:50	9	e-readers.
09:17:50	10	Q. Can a consumer with a Nook e-reader buy
09:17:55	11	e-books to read on that device from Amazon?
09:17:58	12	MR. FRIEDMAN: Objection, form.
09:18:01	13	THE WITNESS: I think now they can, but I'm
09:18:09	14	not absolutely certain of that. I haven't examined
09:18:12	15	that. I've done no independent analysis of what you
09:18:15	16	can -- what the story of a Nook is. I'm just trying
09:18:20	17	to recollect from my background information on having
09:18:22	18	read trade press articles about e-readers, but I --
09:18:27	19	there is -- nothing in my report hinges on that, and
09:18:29	20	I did nothing in connection with preparing the report
09:18:32	21	that addresses that issue.
09:18:33	22	Q. MR. SWANSON: I take it you don't have a
09:18:36	23	Nook.
09:18:36	24	A. No, I do not have any e-reader.
09:18:39	25	Q. We'll have to change that.

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09:18:41	1	A. No, we won't. There are some things that are
09:18:49	2	just too far.
09:18:52	3	Q. We know where the limits are.
09:18:55	4	Professor, what does an economist mean by the
09:18:59	5	term complementary products?
09:19:02	6	A. It's sort of opposite of a substitute.
09:19:08	7	It's -- for a substitute, if the price of product A
09:19:11	8	goes up, demand for product B goes up. It's the
09:19:15	9	opposite. If the price goes up for complements, then
09:19:18	10	the demand for the complement goes down because
09:19:21	11	people are buying them in pairs, if you will. Like
09:19:24	12	left shoes and right shoes are perfect complements.
09:19:28	13	What you want to do is pay a certain amount for a
09:19:30	14	pair of shoes.
09:19:32	15	Q. So if the price of a left shoe goes up, the
09:19:35	16	demand for right shoes goes down.
09:19:38	17	A. Right, because left shoes and right shoes are
09:19:41	18	sold in perfect -- they're fixed proportions for most
09:19:45	19	people.
09:19:45	20	Q. Are e-books and e-reading devices
09:19:48	21	complementary products?
09:19:50	22	MR. FRIEDMAN: Objection, form.
09:19:51	23	THE WITNESS: Yes, they are. I have done --
09:19:53	24	again, they are, but I have done no independent
09:19:56	25	analysis to try to estimate that. The problem here

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09:20:00	1	is that e-reader in the initial definition of the
09:20:07	2	term was a specialized device, and as time has
09:20:11	3	progressed, they've become tablet computers.
09:20:14	4	So the degree to which there is a
09:20:17	5	complementarity has diminished. Whether it's still
09:20:21	6	true I don't know, and I've done no independent
09:20:24	7	analysis to reach a conclusion on that. But if it
09:20:27	8	were a completely specialized device, then it would
09:20:30	9	be a complement. But as it becomes more generic, it
09:20:34	10	becomes just another kind of computer, then that
09:20:38	11	complementarity diminishes.
09:20:40	12	Q. At least during the class period, do you view
09:20:47	13	the Kindle device and Amazon e-books as complementary
09:20:54	14	products?
09:20:54	15	MR. FRIEDMAN: Objection, form.
09:20:55	16	THE WITNESS: At the beginning Kindles were
09:20:59	17	complementary products. I suspect they still are,
09:21:03	18	but I've done no independent analysis to be able to
09:21:05	19	justify that conclusion.
09:21:06	20	Q. MR. SWANSON: During the class period, were
09:21:08	21	Amazon e-books and the iPad complementary products?
09:21:11	22	MR. FRIEDMAN: Objection, form.
09:21:13	23	THE WITNESS: I have done no independent
09:21:18	24	analysis to be able to answer that question. The
09:21:23	25	iPad is a multiuse electronics device and you don't

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09:21:33	1	have to be someone who wants to use it as an e-reader
09:21:38	2	to buy one. In fact, you know, my grandchildren have
09:21:44	3	iPads and they don't use them as e-readers.
09:21:46	4	So I don't -- there is reasons to believe
09:21:50	5	that if the complementarity exists it's de minimis
09:21:58	6	between an iPad and e-books.
09:22:00	7	Q. Does the price of an e-reader device affect
09:22:10	8	the demand for e-books?
09:22:12	9	MR. FRIEDMAN: Objection, form.
09:22:13	10	THE WITNESS: I'm sorry. Ask it again. I
09:22:15	11	got waylaid here.
09:22:17	12	Q. MR. SWANSON: No problem. I'm glad to repeat
09:22:21	13	a question.
09:22:22	14	A. It just went out of my mind.
09:22:24	15	Q. Not a problem. Does the price of an
09:22:30	16	e-reading device affect the demand for e-books?
09:22:35	17	MR. FRIEDMAN: Objection, form.
09:22:37	18	THE WITNESS: If it is used significantly in
09:22:40	19	reading e-books, then an increase in the price of
09:22:45	20	that device might affect the demand for e-books, but
09:22:49	21	it would depend on what was happening to the prices
09:22:53	22	of substitutes for that device.
09:22:55	23	If somebody wanted to read e-books on a
09:22:58	24	tablet computer, then a change in the relative price
09:23:02	25	of one e-reader versus another would just cause them

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09:23:06	1	to switch which one they bought. So it might not
09:23:11	2	have a measurable effect, but it could in principle
09:23:13	3	have such an effect. If in general prices of
09:23:17	4	e-readers went up, then they would have a depressing
09:23:21	5	effect on the demand for e-books.
09:23:23	6	Q. MR. SWANSON: And if in general the price of
09:23:26	7	e-readers declined, would that have a stimulating
09:23:29	8	effect on the demand for e-books?
09:23:33	9	MR. FRIEDMAN: Objection, form.
09:23:34	10	THE WITNESS: Again with all the caveats I
09:23:36	11	just said, yes.
09:23:37	12	Q. MR. SWANSON: In setting e-reading device
09:23:39	13	prices, how would you expect retailers to take e-book
09:23:43	14	prices into account?
09:23:44	15	MR. FRIEDMAN: Objection, form.
09:23:45	16	THE WITNESS: What kind of retailer?
09:23:46	17	Q. MR. SWANSON: A retailer that is selling an
09:23:49	18	e-reading device.
09:23:51	19	A. They would -- retailers that are -- that are
09:24:00	20	integrated to the degree they have any market power
09:24:06	21	would obviously take -- price them jointly, but if
09:24:12	22	the market is competitive, then they wouldn't have
09:24:16	23	any ability jointly to have any discretion. They
09:24:20	24	would be setting -- the price would be the market
09:24:23	25	price determined through the competitive interactions

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09:24:26	1	of the firms.
09:24:27	2	Q. Let's take Amazon as a specific concrete
09:24:31	3	example. How would you, during the class period,
09:24:35	4	expect Amazon to take account of the price of e-books
09:24:40	5	when it is setting the price of a Kindle device?
09:24:43	6	MR. FRIEDMAN: Objection, form.
09:24:44	7	THE WITNESS: First of all, I have done no
09:24:47	8	independent analysis of that. All right? So I can't
09:24:54	9	give you an answer based on work I've done in this
09:24:57	10	case. I just don't have an opinion about how they
09:25:04	11	actually take into account, if at all, Kindle's
09:25:10	12	prices when setting e-books prices.
09:25:13	13	Q. MR. SWANSON: You agree, though, don't you,
09:25:17	14	that the price of e-books and the price of e-reading
09:25:20	15	devices are related as an economic matter?
09:25:22	16	MR. FRIEDMAN: Objection, form.
09:25:22	17	THE WITNESS: I agree they could be related,
09:25:25	18	yes. That's the point of the discussion in -- in
09:25:28	19	this report. In principle, yes, they are related.
09:25:35	20	But to say that they're related in a market sense is
09:25:38	21	not the same thing as to say that any given firm has
09:25:46	22	any firm specific discretion in how those prices are
09:25:49	23	set.
09:25:49	24	Q. MR. SWANSON: Have you analyzed how long
09:25:54	25	consumers on average use the same e-reading device?

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09:26:01	1	In other words, until they replace it or stop using
09:26:03	2	it?
09:26:04	3	A. Not in the context of this case. I don't
09:26:08	4	recall having -- but I have seen such information,
09:26:10	5	but none of that information plays any role in my
09:26:13	6	damages model.
09:26:14	7	Q. So if consumers on average use e-reading
09:26:19	8	devices for two years, three years, that assumption
09:26:25	9	would not play any role in your analysis in this
09:26:29	10	case?
09:26:29	11	MR. FRIEDMAN: Objection, form.
09:26:30	12	THE WITNESS: No, it has no role in what I
09:26:32	13	did for this case.
09:26:34	14	Q. MR. SWANSON: Do you, based on the general
09:26:39	15	information that you have, have an understanding as
09:26:41	16	to what the range is for average use of an e-reading
09:26:45	17	device?
09:26:45	18	MR. FRIEDMAN: Objection, form.
09:26:46	19	THE WITNESS: Yes, which is it's actually my
09:26:50	20	understanding is that in the -- in terms of the
09:26:54	21	devices that are used for e-readers, the more
09:26:57	22	specialized device, the shorter the half-life.
09:27:01	23	And so, you know, at one extreme personal
09:27:04	24	computers have a long half-life, like three years.
09:27:09	25	For specialized devices like the original Kindle and

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09:42:27	1	discussed it in the Court's decision, are you taking
09:42:31	2	that as a predicate fact for your modeling?
09:42:36	3	A. No, it's -- the -- what I'm taking as a
09:42:40	4	predicate fact is are there pro-competitive
09:42:44	5	justifications for the collusive agreement, and the
09:42:48	6	Court found there were none. So, therefore, I didn't
09:42:50	7	have to get into an analysis of the potential
09:42:53	8	pro-competitive justifications.
09:42:54	9	Q. Would Amazon have implemented a 70 percent
09:42:57	10	royalty option under the Kindle direct publishing
09:43:01	11	platform for self-publishers in the but-for world?
09:43:05	12	MR. FRIEDMAN: Objection, form.
09:43:07	13	THE WITNESS: I have no idea what they would
09:43:09	14	have adopted in the but-for world in terms of the
09:43:10	15	specific contract form with independent publishers.
09:43:13	16	The issue is not -- that I'm addressing is what the
09:43:18	17	price would be of those books, not what the impact
09:43:21	18	for the publisher would be.
09:43:23	19	Q. MR. SWANSON: Did you investigate how
09:43:24	20	retailers determine their pricing under the wholesale
09:43:27	21	model?
09:43:27	22	A. Yes, I reference the discovery material from
09:43:38	23	Amazon and I think Barnes & Noble within the report
09:43:41	24	about how they did pricing, and that fed into how I
09:43:46	25	constructed the econometric model of pricing. I

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09:43:51	1	wanted to make it consistent with Amazon's model.
09:43:54	2	Q. And are you aware that Amazon invested
09:43:58	3	substantial time and money in developing a system for
09:44:00	4	setting the retail price of e-books?
09:44:02	5	MR. FRIEDMAN: Objection, form.
09:44:03	6	THE WITNESS: I -- obviously it takes time
09:44:09	7	and money to develop a pricing algorithm, yes. That
09:44:15	8	fact played no role in anything I did.
09:44:17	9	Q. MR. SWANSON: You do refer at multiple points
09:44:22	10	in your report to Amazon's pricing formula or pricing
09:44:26	11	algorithm, don't you?
09:44:28	12	A. Yes.
09:44:29	13	Q. And what do you mean by that?
09:44:31	14	A. What I mean by that is a way of classifying
09:44:37	15	books by how long they've been out, what kind of book
09:44:42	16	they are, what their retail price is and mapping that
09:44:46	17	into an e-book price on Amazon.
09:44:49	18	Q. Does your model attempt to reflect then
09:44:56	19	Amazon's pricing algorithm?
09:45:00	20	A. It wouldn't be Amazon's pricing algorithm,
09:45:05	21	no. It would -- it's a model that takes into account
09:45:09	22	the factors that Amazon took into account. So it's
09:45:13	23	not intended to be anybody's pricing algorithm,
09:45:16	24	because price in a market is the result of
09:45:19	25	competitive interactions among firms, and one of the

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09:45:22	1	elements in Amazon's model is what's the price at
09:45:27	2	Barnes & Noble, like just as at Barnes & Noble one of
09:45:31	3	the elements is what's the price at Amazon.
09:45:33	4	So it isn't -- the model is a reduced form
09:45:38	5	pricing model that has both supply and demand
09:45:42	6	characteristics in it. It isn't intended to be -- it
09:45:44	7	is intended to be a marketing, delivery and price
09:45:48	8	estimated through a reduced form model. It's not
09:45:51	9	intending to be anybody's pricing algorithm.
09:45:53	10	Q. Have you ever had access to the algorithms
09:45:58	11	used by Amazon for e-book pricing?
09:46:00	12	A. I don't have -- I have not seen the actual
09:46:03	13	algorithms, no.
09:46:04	14	Q. Are you aware whether Amazon produced any
09:46:09	15	document showing its precise methodology for
09:46:11	16	determining e-book prices?
09:46:12	17	A. I don't remember whether they did or didn't.
09:46:14	18	I mean, it would be irrelevant anyway since they base
09:46:16	19	it on Barnes & Noble prices. So that tells me that
09:46:20	20	whatever their algorithm spits out, if the price
09:46:23	21	that's spit out is higher than Barnes & Noble, they
09:46:26	22	will set the price equal to Barnes & Noble price.
09:46:29	23	So for my purposes recreating their pricing
09:46:33	24	formula wouldn't be accurate. It would tend to
09:46:36	25	produce an imprecise and incorrect estimate of

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09:46:40	1	pricing because it wouldn't be just the book
09:46:45	2	characteristics that were taken into account. It
09:46:48	3	would be market conditions as well.
09:46:49	4	Q. Are you aware that Amazon considers its
09:46:54	5	methodologies for determining e-book prices to be
09:46:57	6	among its most closely guarded trade secrets?
09:47:01	7	MR. FRIEDMAN: Objection, form.
09:47:03	8	THE WITNESS: I'm not surprised that that
09:47:05	9	would be true, but I don't recall having known that
09:47:07	10	and it doesn't play any role in my analysis.
09:47:09	11	Q. MR. SWANSON: Are you aware that access to
09:47:11	12	such information is restricted even within Amazon?
09:47:14	13	MR. FRIEDMAN: Same objection.
09:47:15	14	THE WITNESS: Again, I'm not surprised that's
09:47:18	15	true. I don't recall ever having read those words,
09:47:20	16	but if you would have asked me do I think they keep
09:47:23	17	this stuff confidential, I would have said yes,
09:47:27	18	because almost everybody keeps their pricing
09:47:29	19	algorithm confidential, including Apple.
09:47:31	20	Q. MR. SWANSON: Do you claim to understand how
09:47:34	21	Amazon's pricing formula operated during the period
09:47:37	22	from 2008 through 2012?
09:47:41	23	A. Only insofar as revealed in the report, which
09:47:43	24	is to identify variables that they claimed to take
09:47:46	25	into account and then to see if they in fact do

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09:52:45	1	same title?
09:52:46	2	MR. FRIEDMAN: Objection, form.
09:52:48	3	THE WITNESS: I am not aware of that being
09:52:52	4	true for e-books. I'm not aware of data that suggest
09:52:58	5	it's true, other than what I've discussed before,
09:53:00	6	which is the presence of some short-term discounts
09:53:03	7	for specific things.
09:53:04	8	Q. MR. SWANSON: Let's take backlist pricing.
09:53:07	9	You've got data that show all the prices that Amazon
09:53:10	10	charged, correct?
09:53:11	11	A. Yes.
09:53:11	12	Q. And you can look at any given day and find
09:53:14	13	out if Amazon charged all the consumers who bought a
09:53:17	14	particular title the exact same price, correct?
09:53:20	15	A. In principle, you could do a histogram of
09:53:23	16	that, yes. In practice, the number of data points is
09:53:25	17	so large, in the time frame I had I couldn't do that.
09:53:28	18	Q. Have you looked at any of those questions as
09:53:30	19	to whether or not Amazon charges the same price to
09:53:33	20	the same consumers for the same title?
09:53:35	21	A. I don't know the answer to the question, do
09:53:38	22	they engage in price differences in the same day for
09:53:41	23	different consumers. I do not know the answer to
09:53:44	24	that.
09:53:44	25	Q. That's an easy question to answer given the

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09:53:47	1	data you have?
09:53:48	2	A. No, it's a very hard question to answer
09:53:50	3	because the data is so large. Yes, in principle one
09:53:54	4	could do it, but because of the size of the data set,
09:53:57	5	it's difficult.
09:53:57	6	Q. Was that an important question for purposes
09:53:59	7	of your opinions here?
09:54:01	8	A. No, because if what they give is certain
09:54:04	9	people in certain circumstances get percentage
09:54:07	10	discounts, it's still -- it's still a percentage
09:54:11	11	discount off of an elevated list price. So there
09:54:14	12	would still be elevation of price.
09:54:16	13	Q. What leads you to speak in terms of
09:54:20	14	percentage discounts in that response?
09:54:22	15	A. Because that's what I'm aware of
09:54:24	16	independently, the kinds of things that Amazon does.
09:54:28	17	But, again, I've seen nothing in the record that
09:54:34	18	systematic gives me an insight into the extent to
09:54:40	19	which there is anything other than just that
09:54:43	20	occasional percentage discount offers to specific
09:54:45	21	customers.
09:54:46	22	Q. So you, for example, don't know if the Amazon
09:54:50	23	pricing algorithm adds two or three cents to a
09:54:54	24	particular consumer's price compared to another
09:54:57	25	consumer's price as opposed to a percentage?

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09:55:00	1	MR. FRIEDMAN: Objection, form.
09:55:01	2	THE WITNESS: I have no clue what's inside
09:55:03	3	the Amazon pricing algorithm because it's not -- it's
09:55:07	4	proprietary.
09:55:09	5	Can we take a break soon?
09:55:10	6	MR. SWANSON: Oh, yeah. We can take it at
09:55:13	7	any time.
09:55:15	8	VIDEOGRAPHER: This now marks the ending of
09:55:18	9	tape labeled as number one of Roger Noll. We are now
09:55:22	10	going off the record. The time is 9:54.
10:02:47	11	(Deposition recess taken.)
10:09:55	12	VIDEOGRAPHER: This now marks the beginning
10:10:09	13	of tape labeled number two in the videotaped
10:10:13	14	deposition of Roger Noll. We are now going back on
10:10:16	15	the record, the time is 10:09.
10:10:18	16	Q. MR. SWANSON: Professor, do you understand
10:10:20	17	that Amazon priced its e-books based in part on the
10:10:26	18	title's digital list price?
10:10:36	19	A. Digital list price. By that you mean the
10:10:43	20	list price of an e-book by the publisher?
10:10:53	21	Q. Correct.
10:10:54	22	A. Well, I think there is a relation -- the
10:11:08	23	physical copy price and the list price are related to
10:11:11	24	each other. So the answer would have to be yes. And
10:11:15	25	if there is no physical copy price, then it would be

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10:11:18	1	the e-book list price, yes.
10:11:21	2	So -- but that's, again -- I haven't done
10:11:27	3	a -- I don't know what they actually do inside their
10:11:29	4	algorithm, so I can't answer to what they actually
10:11:32	5	do.
10:11:33	6	Q. Did you have access to digital list price
10:11:37	7	data?
10:11:37	8	A. I don't remember whether we had digital list
10:11:42	9	price data or not. It's too long ago.
10:11:45	10	Q. Did you include digital list prices in your
10:11:51	11	model?
10:11:51	12	A. I don't believe we did.
10:11:52	13	Q. Do you have an understanding as to whether
10:11:55	14	digital list prices generally changed when a title
10:11:59	15	shifted from a hard cover to a trade paperback
10:12:02	16	version?
10:12:03	17	A. Yes, we do have that shift in the model, yes.
10:12:07	18	So that would be -- to the extent the price did
10:12:11	19	depend on the existence of a paperback edition, yes,
10:12:14	20	we have that in the model.
10:12:15	21	Q. And do you understand that digital list
10:12:20	22	prices generally changed when a title shifted from a
10:12:23	23	trade paperback to a mass market version?
10:12:26	24	MR. FRIEDMAN: Object to form.
10:12:28	25	THE WITNESS: I believe that -- I believe

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10:17:06	1	A. The collusive version of the agency model
10:17:10	2	became effective for some publishers on April 1st.
10:17:16	3	Q. And the agency agreements between the
10:17:20	4	defendant publishers and Apple were signed in
10:17:23	5	January 2010, correct?
10:17:23	6	MR. FRIEDMAN: Objection, form.
10:17:24	7	THE WITNESS: I haven't memorized the dates.
10:17:26	8	They're in the record, and I will let the record
10:17:29	9	speak for itself. It plays no role in my analysis.
10:17:32	10	Q. MR. SWANSON: Was the 9.99 price point for
10:17:37	11	new releases under the wholesale model generally
10:17:42	12	above or below incremental cost?
10:17:45	13	MR. FRIEDMAN: Objection, form.
10:17:47	14	THE WITNESS: Sometimes above, sometimes
10:17:49	15	below.
10:17:51	16	Q. MR. SWANSON: Under what circumstances do
10:17:54	17	economists expect rational, profit-maximizing
10:17:57	18	retailers to set prices below incremental cost?
10:18:02	19	A. Promotional.
10:18:03	20	Q. Any other circumstances that you can think
10:18:06	21	of?
10:18:07	22	A. Why don't you ask me a question? I mean,
10:18:15	23	pricing has to do with costs and pricing has to do
10:18:19	24	with advertising, and so I would expect both of those
10:18:24	25	things to affect how pricing was set.

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10:18:30	1	Q. Right. And understand that for promotional
10:18:33	2	reasons a rational, profit-maximizing retailer could
10:18:39	3	set price below incremental cost. Are there any
10:18:43	4	other reasons or circumstances you can think of as an
10:18:45	5	economist why such a retailer would do that?
10:18:47	6	A. The defendants in this case claimed that
10:18:49	7	Amazon was engaged in predatory pricing, but that was
10:18:52	8	rejected by the Court.
10:18:54	9	Q. Any other circumstances you can think of
10:18:57	10	other than promotional reasons or predatory pricing?
10:19:00	11	A. Not that I -- I'm aware of. Maybe I'm just
10:19:06	12	forgetting something that you can tell me about. I
10:19:09	13	don't know that it would play any role in my report,
10:19:11	14	but if you want to ask me a question about something
10:19:13	15	else, I can, A, say whether I've thought about it
10:19:17	16	and, B, say whether it would play any role in
10:19:20	17	estimating damages.
10:19:21	18	Q. Are you assuming that Amazon would continue
10:19:23	19	to price some e-books below incremental cost in the
10:19:27	20	but-for world to the same extent that it had in the
10:19:30	21	actual world?
10:19:30	22	A. I see no reason to believe that there would
10:19:36	23	be a change in Amazon's pricing policy on April 1st
10:19:40	24	other than the implementation of the agency model.
10:19:44	25	Q. Overall, would Amazon make money on e-books

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10:19:50	1	in the but-for world?
10:19:51	2	MR. FRIEDMAN: Objection, form.
10:19:53	3	THE WITNESS: I would expect that people who
10:19:58	4	are engaged in e-book retailing would make money on
10:20:01	5	the fact they were e-book retailing or get out of the
10:20:05	6	business, yes.
10:20:05	7	Q. MR. SWANSON: And is it your expectation that
10:20:10	8	in the but-for world Amazon's profitability would be
10:20:15	9	positive with respect to the sale of trade e-books?
10:20:20	10	MR. FRIEDMAN: Objection, form.
10:20:22	11	THE WITNESS: I would expect them to be
10:20:27	12	profitable selling e-books in general. With respect
10:20:30	13	to any specific product, no, I wouldn't expect
10:20:33	14	anything about whether that product was profitable or
10:20:35	15	not.
10:20:36	16	Q. MR. SWANSON: Any specific title?
10:20:37	17	A. Or even specific category. Yes, overall
10:20:40	18	profitability. No with respect to any specific
10:20:44	19	thing.
10:20:44	20	Q. Have you analyzed whether Amazon was losing
10:20:51	21	money on e-books before April 1st, 2010?
10:20:54	22	MR. FRIEDMAN: Objection, form.
10:20:55	23	THE WITNESS: I have undertaken no
10:20:56	24	independent analysis of the financial condition of
10:20:58	25	Amazon's e-book business.

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10:21:00	1	Q. MR. SWANSON: Did you analyze whether Amazon
10:21:05	2	was making money on Kindle devices before the
10:21:08	3	conspiracy period?
10:21:09	4	A. I have undertaken no independent analysis of
10:21:11	5	the profitability of their device business for the
10:21:16	6	purposes of writing my report.
10:21:18	7	Q. Would you take issue with the
10:21:22	8	characterization that Amazon before the agency
10:21:25	9	agreements was at best breaking even on e-books?
10:21:27	10	MR. FRIEDMAN: Objection, form.
10:21:28	11	THE WITNESS: I have again taken no -- done
10:21:32	12	no independent analysis of whether they were or were
10:21:34	13	not making money on Kindles before and after the
10:21:37	14	agency agreement.
10:21:38	15	Q. MR. SWANSON: Or e-books?
10:21:39	16	A. Or e-books.
10:21:41	17	Q. Would you expect Amazon's pricing strategy
10:21:48	18	with respect to e-books sold on the wholesale model
10:21:52	19	to be different in the but-for world than in the
10:21:54	20	actual world?
10:21:56	21	MR. FRIEDMAN: Objection, form.
10:21:58	22	THE WITNESS: I have no clue what that
10:22:00	23	question means. What do you mean by actual world?
10:22:06	24	The but-for world is supposed to be a guess about
10:22:08	25	what the actual world would look like in the absence

20 (Pages 74 to 77)

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10:27:34	1	good with assumptions.
10:27:35	2	So if you assumed that Barnes & Noble could
10:27:38	3	not continue to match Amazon's prices in the but-for
10:27:41	4	world, how would that affect your modeling?
10:27:44	5	MR. FRIEDMAN: Objection, form.
10:27:45	6	THE WITNESS: If I assume that and I also
10:27:47	7	assume that the market is competitive, then I would
10:27:50	8	be predicting that Barnes & Noble would exit the
10:27:53	9	industry and the only firm left would be Amazon and
10:27:56	10	it would be true of everybody else. So Amazon would
10:27:59	11	start to be a complete monopolist because the -- it's
10:28:07	12	the competitive process that determines the price,
10:28:09	13	and Barnes & Noble would be unsuccessful if it
10:28:13	14	systematically priced above Amazon.
10:28:14	15	Q. MR. SWANSON: Have you made any evaluation as
10:28:16	16	to whether or not Barnes & Noble's e-book business
10:28:20	17	would be profitable in the but-for world?
10:28:23	18	MR. FRIEDMAN: Objection.
10:28:23	19	THE WITNESS: I have undertaken no
10:28:25	20	independent analysis of Barnes & Noble's
10:28:27	21	profitability, and it's irrelevant to anything I did
10:28:29	22	in my report.
10:28:30	23	Q. MR. SWANSON: So if under the prices that
10:28:33	24	would prevail in the but-for world Barnes & Noble
10:28:36	25	would be losing substantial amounts of money, in your

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10:28:39	1	view, that's irrelevant to the assessment of damages?
10:28:41	2	A. Yes.
10:28:42	3	Q. In your view, did the agency model eliminate
10:28:51	4	all retail price competition in the trade e-books
10:28:55	5	market?
10:28:55	6	MR. FRIEDMAN: Objection, form.
10:28:58	7	THE WITNESS: It didn't eliminate competition
10:29:01	8	among publishers that were not part of the
10:29:04	9	conspiracy. It probably reduced its intensity and
10:29:08	10	caused prices to be somewhat higher. So I haven't
10:29:12	11	modeled that. So I underestimate damages.
10:29:15	12	Q. MR. SWANSON: Would the publisher defendants
10:29:17	13	have competed with each other on the wholesale price
10:29:20	14	of release e-books in the but-for world?
10:29:22	15	MR. FRIEDMAN: Objection, form.
10:29:23	16	THE WITNESS: Again, I haven't done an
10:29:29	17	independent analysis of the intensity of competition,
10:29:33	18	but I presume that in the absence of collusion they
10:29:37	19	have competed as they had before the collusion
10:29:39	20	started, yes.
10:29:40	21	Q. MR. SWANSON: So would you expect lower
10:29:42	22	wholesale prices in the but-for world?
10:29:44	23	A. Actually, the nature of the competition was
10:29:48	24	different in this case because they made a sacrifice
10:29:51	25	in wholesale prices of e-books in order to induce --

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10:29:55	1	and as part of the deal to generate a minimum retail
10:29:59	2	price margin because their objective here, as stated
10:30:04	3	in my report derived from the opinion, was to protect
10:30:07	4	sales of hard copies.
10:30:09	5	So their profit calculation is based in part
10:30:12	6	on the price of e-books and in part on the sales and
10:30:15	7	prices of hard copies. What they wanted to do was
10:30:18	8	protect -- arrest the decline in the sale of hard
10:30:21	9	copies.
10:30:23	10	Q. MR. SWANSON: And so you understood that in
10:30:27	11	the actual world as part of the unlawful conduct the
10:30:32	12	publisher defendants took wholesale prices to a lower
10:30:35	13	level?
10:30:35	14	MR. FRIEDMAN: Objection, form.
10:30:36	15	THE WITNESS: No, that's not what I said. I
10:30:38	16	said that in some cases they actually cut the price
10:30:41	17	as part of the collusive agreement. So the pricing
10:30:44	18	model I'm assuming is the one that -- a continuation
10:30:48	19	of the one that was in place prior to the institution
10:30:51	20	of the collusive agreement.
10:30:52	21	Q. MR. SWANSON: I think one of us may have
10:30:55	22	misunderstood the other. I said took wholesale
10:30:59	23	prices to a lower level. That is, I think, what
10:31:01	24	you're saying.
10:31:02	25	A. You said under competition in the but-for

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10:31:04	1	world. The answer to that, if the prices were
10:31:07	2	lowered because of the collusive agreement for some
10:31:09	3	books, obviously they wouldn't be lower still in the
10:31:13	4	absence. Maybe some e-book prices at the wholesale
10:31:17	5	level would have been higher in the absence of a
10:31:19	6	collusive agreement. But our interest here is not
10:31:21	7	what the wholesale price was. Our interest here is
10:31:25	8	what the retail price was.
10:31:27	9	Q. In the real world, what you call the
10:31:29	10	collusive world, did wholesale prices drop for
10:31:32	11	nondefendant publishers as well?
10:31:34	12	MR. FRIEDMAN: Objection, form.
10:31:36	13	THE WITNESS: The model takes into account a
10:31:41	14	general declining trend in e-book prices by having a
10:31:45	15	time variable in there, yes.
10:31:46	16	Q. MR. SWANSON: And would the market wholesale
10:31:50	17	price have been that low absent the collusion?
10:31:53	18	MR. FRIEDMAN: Objection, form.
10:31:54	19	THE WITNESS: What wholesale market price?
10:31:58	20	Again, it's a very vague and general question, and I
10:32:01	21	want to know what exactly you're talking about.
10:32:03	22	Q. MR. SWANSON: So there is no market wholesale
10:32:06	23	price, in your view, for trade e-books?
10:32:08	24	MR. FRIEDMAN: Objection, form.
10:32:09	25	THE WITNESS: There's market wholesale prices

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13:02:44	1	is the variation of the -- of the individual
13:02:46	2	transactions for prices around the predicted price.
13:02:50	3	And the within is measuring the latter, not the
13:02:53	4	former.
13:02:53	5	Q. Is the within measuring the extent to which
13:02:58	6	you're accounting for the variation in individual
13:03:00	7	title prices over time?
13:03:03	8	A. Well, it's about the extent to which
13:03:08	9	predicting an average in a category predicts the
13:03:13	10	individual observations in a category.
13:03:16	11	Q. Let me ask you to turn to page 19 of your
13:03:23	12	report, Exhibit 1. And let me find it. Oh, I'm
13:03:38	13	starting from the first sentence of the bottom
13:03:41	14	paragraph where you say: "To make analysis of these
13:03:46	15	data more tractable, the weekly data were aggregated
13:03:49	16	into four-week periods for use in econometric
13:03:54	17	estimation."
13:03:55	18	See that? What was intractable about using
13:03:57	19	nonaggregated data?
13:03:57	20	A. The amount of computer power and time
13:04:00	21	required to run a regression. That the more
13:04:04	22	observations you have to run the regression on, the
13:04:07	23	more computer power it takes. And you would have to
13:04:10	24	have -- well, there's two aspects to the problem.
13:04:19	25	The first is the regression -- the underlying

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13:04:22	1	data, you have to pay attention at the level of
13:04:26	2	individual observations to errors to a much greater
13:04:29	3	extent. If a very tiny fraction of the observations
13:04:33	4	are wrong, you want to clean the data of those before
13:04:36	5	you would do any individual level regression, even if
13:04:40	6	they're a small fraction, because outliers can have a
13:04:43	7	huge effect on a regression model.
13:04:46	8	You are much less concerned about a small
13:04:48	9	number of outliers if you are using averages. So you
13:04:52	10	don't have to devote the same amount of time to
13:04:54	11	cleaning the data, which can take literally months
13:04:57	12	for a large data set.
13:04:59	13	And then the second -- the second issue has
13:05:01	14	to do with the amount of computer power it takes to
13:05:05	15	estimate the regression coefficients when you have
13:05:07	16	billions of observations as contrasted to thousands
13:05:11	17	or hundreds of thousands or something like that. To
13:05:13	18	do a regression on a huge data set can take linking
13:05:18	19	together multiple computers and then running it for
13:05:21	20	two days to get a single regression result.
13:05:25	21	Q. And did you give consideration to using other
13:05:29	22	periods of time for your aggregation or averaging of
13:05:33	23	the price data?
13:05:34	24	A. Well , consideration, yes. But the
13:05:39	25	four-month stuff was already done. So in the time

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13:05:42	1	horizon I had --
13:05:44	2	MR. HUBBARD: Four-week.
13:05:45	3	THE WITNESS: Excuse me. Four-week. Yes, it
13:05:47	4	wasn't four months. The aggregation to four weeks
13:05:49	5	had already been done. So that meant that I didn't
13:05:52	6	have to construct some other aggregation mechanism
13:05:54	7	within the time frame I had.
13:05:56	8	Q. MR. SWANSON: Did you examine individual
13:06:01	9	transaction prices at any point?
13:06:04	10	A. Well, the damage calculation is the actual
13:06:10	11	price minus the predicted price. So in that sense,
13:06:16	12	yes.
13:06:17	13	Q. The -- the actual price --
13:06:20	14	A. I guess I don't understand the question.
13:06:22	15	Maybe I missed the question. What are you -- what
13:06:24	16	are you asking me?
13:06:25	17	Q. I was asking is there any statistical work
13:06:28	18	you've done on -- on --
13:06:31	19	A. Oh, okay.
13:06:31	20	Q. -- individual -- individualized transaction
13:06:34	21	data.
13:06:35	22	A. No, I have not analyzed the individual
13:06:37	23	transactions data. Actually, that's not quite true.
13:06:47	24	Remember, the -- the method for allocating the
13:06:51	25	damages among states is based upon assigning

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13:06:53	1	individual transactions to a state. So, yes, we've
13:06:58	2	done that, but we haven't run regressions on
13:07:01	3	individual transactions data.
13:07:02	4	Q. Are the only important characteristics for
13:07:08	5	pricing an e-book title for any given publisher the
13:07:13	6	ones for which you've introduced variables into your
13:07:18	7	model?
13:07:19	8	A. In principle, I could imagine there could be
13:07:22	9	other characteristics. In practice, I don't what I
13:07:25	10	would use that I haven't used.
13:07:33	11	Q. Would you agree that the transaction data
13:07:35	12	upon which your model relies includes more genres
13:07:39	13	than the categories you use?
13:07:41	14	A. Yes, remember, we aggregated some into
13:07:45	15	puddles. There's the other genre puddle and there's
13:07:48	16	the we don't know what it is puddle.
13:07:50	17	Q. The Amazon data contained genres such as
13:07:54	18	romance, mystery and thriller, science fiction and
13:07:58	19	fantasy, literature and fiction and sports, correct?
13:08:03	20	A. That's correct.
13:08:04	21	Q. Did you use those genres as separate
13:08:07	22	categories in your model?
13:08:08	23	A. No.
13:08:09	24	Q. Have you aggregated -- well, I think you've
13:08:17	25	said you've aggregated some different genres into a

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13:08:22	1	single category or several different categories. Is
13:08:23	2	that -- is that a proper interpretation?
13:08:24	3	A. I'm not sure I understand the question.
13:08:26	4	Q. Okay.
13:08:26	5	A. If it's not -- if the answer isn't apparent
13:08:29	6	from the list of the variables, then I don't
13:08:31	7	understand the question.
13:08:32	8	Q. Well, for example, do you aggregate romance,
13:08:36	9	mystery and science fiction into a broad science
13:08:40	10	fiction category?
13:08:41	11	A. It would be aggregated into the other
13:08:44	12	category, yes.
13:08:44	13	Q. That would be other and not fiction?
13:08:47	14	A. Well, if it's something that can appear on
13:08:50	15	the fiction best seller list, it's in that category.
13:08:54	16	If it's not something that can appear in the fiction
13:08:57	17	best seller category, it would be in the other.
13:08:59	18	Q. So that was the basis on which you did that
13:09:02	19	aggregation?
13:09:03	20	A. Well, the -- yeah, notice that all the
13:09:07	21	categories we have other than children's are
13:09:09	22	associated with the New York Times best seller list.
13:09:13	23	Q. Is it your testimony that the price of two
13:09:19	24	e-books in the same category and produced by the same
13:09:23	25	publisher were impacted in the same manner by the

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13:09:26	1	change from a wholesale business model to an agency
13:09:29	2	business model?
13:09:30	3	MR. FRIEDMAN: Objection, form.
13:09:31	4	THE WITNESS: Well, they would have to be.
13:09:33	5	Two titles have the same impact if the values of all
13:09:37	6	the independent variables were identically the same
13:09:39	7	for both of them.
13:09:40	8	Q. MR. SWANSON: So if they were in the same
13:09:45	9	category and they were published by the same
13:09:50	10	publisher, what other variables --
13:09:52	11	A. Sold by the same retailer, status with regard
13:09:55	12	to the New York Times best seller list, observation
13:09:58	13	at the same point in time. All those phenomena would
13:10:03	14	have to be the same. Every single variable that's in
13:10:06	15	the regression would have to take the same value for
13:10:09	16	the two titles.
13:10:10	17	Q. And to the extent that all those variables
13:10:12	18	did take the same value, then two books would have
13:10:15	19	the same impact, according to your model from the --
13:10:20	20	from the conduct at issue in the case?
13:10:22	21	A. Yes, the R squared of .9 is not 1.0 because
13:10:27	22	there's going to be something out there that isn't in
13:10:31	23	the regression that might have explained that.
13:10:33	24	That's the unexplained variance. I don't know what
13:10:35	25	it is, but that would be something.

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13:10:39	1	Q. Do you agree that the standard approach to
13:10:44	2	proving that collusion raised prices is to construct
13:10:48	3	an econometric model of product pricing and taking
13:10:54	4	into account all of the other factors that affect
13:10:57	5	price including costs, market concentration and
13:10:59	6	market demand, prices were higher due to collusion?
13:11:02	7	MR. FRIEDMAN: Objection, form.
13:11:03	8	THE WITNESS: Those are the things taken into
13:11:06	9	account, yes.
13:11:06	10	Q. MR. SWANSON: Does your regression model take
13:11:09	11	account of costs?
13:11:10	12	A. Well, the cost that we're interested in is
13:11:14	13	the cost to the retailer, right? Because we're
13:11:17	14	interested in retail prices. And these, as you know,
13:11:23	15	the categories depend on hard cover prices which are
13:11:26	16	related to the cost to the retailer.
13:11:31	17	So they're indirectly taken into account, but
13:11:34	18	what they -- what they actually paid for them is not
13:11:38	19	actually a variable in the model.
13:11:40	20	Q. Does your regression model take account of
13:11:43	21	market concentration?
13:11:44	22	A. It does not take into account market
13:11:48	23	concentration except insofar as that's taken into
13:11:50	24	account for the indicator variables for the specific
13:11:54	25	firms because the market concentration would -- the

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13:11:57	1	coefficient for Amazon.com, to the extent it differed
13:12:01	2	from the coefficient for somebody else, would take
13:12:04	3	account of all the attributes of Amazon, including
13:12:07	4	market concentration differences.
13:12:09	5	Q. Do economists believe that changes in the
13:12:12	6	wholesale prices are relevant to the level of retail
13:12:14	7	prices for the same product?
13:12:15	8	A. Of course.
13:12:16	9	Q. Are you aware that the defendant publishers
13:12:21	10	had changed wholesale e-book pricing in the preagency
13:12:25	11	period?
13:12:25	12	MR. FRIEDMAN: Objection, form.
13:12:28	13	THE WITNESS: I'm not sure to what you're
13:12:30	14	referring. I mean, prices change, yes, but I don't
13:12:34	15	know what you're referring to in the question.
13:12:36	16	Q. MR. SWANSON: Are you aware of generally how
13:12:40	17	the defendant publishers priced e-books at wholesale
13:12:46	18	under the wholesale model?
13:12:47	19	MR. FRIEDMAN: Objection, form.
13:12:49	20	THE WITNESS: I recall having seen that
13:12:50	21	information, but it played no role in how I modeled
13:12:53	22	the damages.
13:12:55	23	Q. MR. SWANSON: In the but-for world, would
13:12:59	24	wholesale prices for e-books be different than in the
13:13:01	25	actual world?

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13:13:02	1	MR. FRIEDMAN: Objection, form.
13:13:03	2	THE WITNESS: You asked me that this morning,
13:13:05	3	and one of the features of the agency model was that
13:13:08	4	some prices were reduced at the wholesale level.
13:13:12	5	Q. MR. SWANSON: And you would not expect to see
13:13:15	6	that in the but-for world?
13:13:16	7	A. That's correct.
13:13:17	8	Q. Focusing on a single transaction for a single
13:13:33	9	title at a given point in time, how do you identify
13:13:38	10	the overcharge associated with that single
13:13:42	11	transaction for that single title?
13:13:43	12	A. That's the difference between the price that
13:13:47	13	was charged for that title in that period versus the
13:13:52	14	competitive benchmark price.
13:13:54	15	Q. And the actual price that's charged is in
13:14:03	16	your data?
13:14:04	17	A. Well, the transactions records are actual
13:14:09	18	prices. The data constructs the averages for each
13:14:14	19	four-week period for each title.
13:14:16	20	Q. Is it fair to say that in your regression
13:14:27	21	model you compute 12 overcharge coefficients for each
13:14:33	22	publisher corresponding with the 12 categories we
13:14:37	23	covered earlier today?
13:14:38	24	A. There are more than those variables in the
13:14:42	25	model. I guess I don't understand the question. All

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13:14:45	1	the variables affect the estimated price for every
13:14:48	2	publisher. So I guess I don't understand the
13:14:50	3	question.
13:14:50	4	Q. Well, you compute overcharge coefficients
13:14:54	5	that for each publisher that are associated with each
13:14:57	6	of those 12 categories that we --
13:15:01	7	A. Yes.
13:15:01	8	Q. -- spoke of earlier, correct?
13:15:03	9	A. Yes, but other variables are still affecting
13:15:07	10	the price. It's not that those other variables
13:15:09	11	disappear in some sense.
13:15:11	12	Q. Did you compute a set of overcharge
13:15:14	13	coefficients for Random House?
13:15:17	14	A. Well, somebody's excluded from the data. So
13:15:24	15	I don't remember precisely which one is. But in any
13:15:28	16	case, one could do that calculation with it, yes.
13:15:31	17	You could estimate the departure of the competitive
13:15:36	18	price from the competitive benchmark price for Random
13:15:41	19	House in the data. Yes, you could do that.
13:15:44	20	Q. But that's not something you've done?
13:15:46	21	A. No.
13:15:46	22	Q. Did you evaluate whether all of your
13:15:50	23	overcharge coefficients were statistically
13:15:54	24	significant?
13:15:54	25	A. I don't think that's the relevant question at

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13:16:00	1	the level of individual coefficients. I mean, first
13:16:04	2	of all, it's not clear what's the appropriate test
13:16:09	3	for statistical significance. All right? And,
13:16:12	4	secondly, the goal is to explain as much of the data
13:16:15	5	as possible without including the effect of the
13:16:19	6	collusive agreement.
13:16:19	7	So it's more like how you would do the first
13:16:24	8	stage of a two-stage least squares model. You want
13:16:28	9	to do the best job you can of forecasting the
13:16:31	10	dependent variable with the data you have, and there
13:16:34	11	you don't evaluate things on the basis of their
13:16:40	12	statistical significance of a coefficient. You
13:16:43	13	evaluate instead the quality of the regression on the
13:16:47	14	basis of the difference by adding the collusion
13:16:52	15	indicator.
13:16:54	16	Q. Well, it's fact, isn't it, that a number of
13:16:59	17	your overcharge coefficients are not statistically
13:17:03	18	significant?
13:17:03	19	A. I haven't -- I didn't look at that because
13:17:05	20	that's not the point of a forecasting model. The
13:17:09	21	point of a forecasting model is do the best job of
13:17:13	22	explaining the noncollusive prices and then add to
13:17:17	23	that the effect of collusion. And there's all kinds
13:17:19	24	of reasons why you might get specific variables being
13:17:22	25	statistically insignificant but you still would want

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13:17:26	1	them in the equation because of possible interaction
13:17:28	2	with the effect you're measuring.
13:17:29	3	So the question is premised on an incorrect
13:17:32	4	conceptualization of what the forecasting model is
13:17:36	5	supposed to do and how you construct it.
13:17:38	6	Q. Well, if one of your coefficients is not
13:17:44	7	statistically significant, can you reject the
13:17:48	8	hypothesis as an academic economist that purchasers
13:17:49	9	of e-books in that category were not injured?
13:17:54	10	A. No, because -- not unless the coefficient is
13:17:58	11	not statistically significant. If it -- the only way
13:18:01	12	you could do that is if the effect of the collusion
13:18:04	13	period itself were statistically insignificant. And
13:18:06	14	since that interacts with a whole bunch of things,
13:18:06	15	you can't do it on the basis of each individual
13:18:08	16	coefficient.
13:18:09	17	That's the whole point of a forecasting
13:18:11	18	model. You evaluate on the basis of the equation,
13:18:14	19	not on the basis of a coefficient.
13:18:16	20	Q. So you would have concerns about statistical
13:18:20	21	significance only if all of the coefficients were not
13:18:24	22	statistically significant?
13:18:25	23	A. No, you could have that for multiple
13:18:30	24	collinearity among the data. The question is is the
13:18:33	25	equation explaining variance in the object of

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13:39:41	1	A. 50 percent.
13:39:42	2	**Q. A little bit over 50?**
13:39:44	3	A. Yeah.
13:39:45	4	**Q. Do any of your formulaic predictions predict**
13:39:52	5	**precisely 9.99 but-for pricing?**
13:39:57	6	A. I don't recall what the precise predictions
13:40:02	7	for anything are. Don't remember. I, you know, I
13:40:09	8	don't recall what those numbers are.
13:40:10	9	**Q. Is it your view that the scenario of a 9.99**
13:40:16	10	**but-for price and a 12.99 actual price is a very**
13:40:20	11	**common one as the plaintiffs' damage expert?**
13:40:26	12	MR. FRIEDMAN: Objection, form.
13:40:27	13	THE WITNESS: What do you mean by common?
13:40:30	14	**Q. MR. SWANSON: Do you think that was the most**
13:40:32	15	**common instance of overcharge?**
13:40:34	16	MR. FRIEDMAN: Objection, form.
13:40:36	17	THE WITNESS: I don't know whether it was the
13:40:37	18	most common. I mean, to begin with, the prices
13:40:40	19	you're quoting are for new releases. They're less
13:40:43	20	than half of the transactions. And then there are
13:40:45	21	differences in the prices of new releases. So I
13:40:48	22	don't know how to characterize most or more common.
13:40:54	23	Those are too vague for me.
13:40:56	24	**Q. MR. SWANSON: Are these overcharge scenarios**
13:40:58	25	**that are common at all, in your view?**

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13:40:59	1	MR. FRIEDMAN: Objection, form.
13:41:00	2	THE WITNESS: You have to be more precise
13:41:04	3	about what common means. I mean, there are some that
13:41:06	4	happen more often than others, but I don't know what
13:41:09	5	you mean by common.
13:41:09	6	**Q. MR. SWANSON: Well, what percentage of**
13:41:11	7	**but-for pricing as predicted by your damage model are**
13:41:18	8	**$9.99?**
13:41:19	9	A. I don't know what percentage of them are. I
13:41:23	10	don't regard it as an important question, but I don't
13:41:25	11	know what they are.
13:41:25	12	**Q. Is it less than ten percent?**
13:41:27	13	A. Is there something about I don't know you
13:41:29	14	don't understand?
13:41:30	15	**Q. Is there something about I'm a lawyer that**
13:41:33	16	**you don't understand?**
13:41:34	17	A. I'm not going to give a Clintonesque
13:41:40	18	definition of I don't know. I'm just going to say I
13:41:42	19	don't know.
13:41:42	20	**Q. Well, I don't know, in my sad experience as a**
13:41:50	21	**lawyer, sometimes gets qualified when the numbers get**
13:41:54	22	**bandied about.**
13:41:55	23	**So you don't know if it's zero percent.**
13:41:58	24	A. Oh, it would be extremely unlikely to be
13:42:01	25	zero percent, but I don't know what it is.

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13:42:04	1	Nothing -- nothing -- the probably of anything being
13:42:07	2	a particular number is not zero, but I don't know
13:42:09	3	what it is. I haven't looked at the distribution of
13:42:11	4	predicted prices, so I can't tell you the frequency
13:42:13	5	of various prices.
13:42:15	6	**Q. Well, you just told me something that**
13:42:17	7	**somewhat belied the fact that you didn't know**
13:42:20	8	**anything. Now --**
13:42:21	9	MR. FRIEDMAN: Objection, form.
13:42:22	10	**Q. MR. SWANSON: How likely is it that the**
13:42:24	11	**number of prices that your model predicts in the**
13:42:29	12	**but-for world are in less than five percent of the**
13:42:35	13	**instances 9.99?**
13:42:38	14	MR. FRIEDMAN: Objection, form.
13:42:39	15	THE WITNESS: I haven't -- I haven't
13:42:42	16	calculated that number. I don't -- I don't know.
13:42:44	17	**Q. MR. SWANSON: If your model predicted only**
13:42:47	18	**one percent of the prices in the but-for world were**
13:42:51	19	**9.99, would that cause you to reexamine the**
13:42:53	20	**reliability of your model?**
13:42:54	21	A. No.
13:42:55	22	MR. FRIEDMAN: Objection, form.
13:42:56	23	THE WITNESS: Not necessarily. I'd have to
13:42:58	24	know a lot more.
13:42:58	25	**Q. MR. SWANSON: Zero percent? What if it were**

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13:43:01	1	**zero percent?**
13:43:01	2	A. No, that's not -- that's not a valid measure
13:43:04	3	of reliability. All right? The issue is not that.
13:43:07	4	The issue is the extent to which it's doing a good
13:43:12	5	job predicting the overcharge.
13:43:15	6	It could be, you know, small differences in
13:43:18	7	the predicted but-for price. Like, suppose we got
13:43:22	8	every single one of them that should have been 9.99
13:43:26	9	as 9.98. That's not important. All right? If every
13:43:30	10	single one that was supposed to be 9.99 was $2.36,
13:43:35	11	then that would be important, or if it was $27.14,
13:43:39	12	that would be important. But just knowing what
13:43:41	13	fraction of them was exactly 9.99 is not relevant to
13:43:45	14	any known or suspected question that I would have
13:43:48	15	about the quality of the model.
13:43:50	16	**Q. So absolutely unimportant to you what**
13:43:52	17	**percentage are 9.99.**
13:43:53	18	MR. FRIEDMAN: Objection, form.
13:43:54	19	THE WITNESS: I don't know why I would care
13:43:56	20	to know the percentage of them that predicted 9.99,
13:44:00	21	yes. I can't think of a good reason to do that. You
13:44:04	22	could do it, but I don't know what the point would
13:44:07	23	be.
13:44:07	24	**Q. MR. SWANSON: Would your answers be different**
13:44:08	25	**if I asked you the same questions but specified a**

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13:44:10	1	range of from, say, 9.75 to 10.25?
13:44:15	2	A. That comes closer to being something that
13:44:19	3	matters, yes. I mean, but you're leaving out the
13:44:22	4	other shoe, which is what actually was the category
13:44:26	5	of the book that's not being 9.99. Is it one that
13:44:30	6	you really should have predicted in the, say, the
13:44:35	7	Amazon data prior to the institution of the agency
13:44:39	8	problem model.
13:44:40	9	If you haven't done a good job of identifying
13:44:43	10	the books they would have set the price at 9.99, then
13:44:48	11	that's important; but if that's true, then I don't
13:44:50	12	know how you get an R square of .90.
13:44:55	13	So, you know, it's -- the question has to be
13:44:58	14	answered in the context of a regression that's
13:45:01	15	explaining 90 percent of the variance, and the
13:45:04	16	average prices for the books that were 9.99 is going
13:45:08	17	to be 9.99. So if you're not explaining that, I
13:45:12	18	don't know how get an R square of .90 if they
13:45:15	19	constitute more than a trivial fraction of the sales.
13:45:19	20	Q. What happens when you get a within R squared
13:45:26	21	of .12? What does that tell you?
13:45:28	22	A. What that's telling me is that within a
13:45:30	23	month-long period, there's lots of variation in price
13:45:34	24	around the average price; and, of course, you're not
13:45:37	25	explaining it because you're not dealing -- you don't

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13:45:40	1	have a transactions model.
13:45:41	2	If you did estimate a transactions model with
13:45:46	3	even the same variables, your ability to explain
13:45:49	4	individual transactions would be better than that,
13:45:52	5	because you're just not -- you're not giving the
13:45:55	6	model the chance to even try to explain those because
13:45:58	7	that's not the input to the model.
13:46:00	8	Q. Well, do people purchase at average prices or
13:46:06	9	do they purchase at actual individual prices --
13:46:09	10	MR. FRIEDMAN: Objection, form.
13:46:10	11	Q. MR. SWANSON: -- at a given point in time?
13:46:12	12	A. Well, some do, some don't. The -- the range
13:46:16	13	of prices being charged obviously is not something
13:46:21	14	where every single price is right at the average.
13:46:24	15	Most of them are not at the average or else you
13:46:27	16	wouldn't have the variation that you do within --
13:46:31	17	within the four-month period.
13:46:33	18	MR. FRIEDMAN: Four-week.
13:46:34	19	THE WITNESS: Four-week period. Excuse me.
13:46:36	20	Q. MR. SWANSON: Are there e-book prices that
13:46:56	21	predictably change within a four-week period that
13:46:59	22	your model is not taking account of?
13:47:01	23	A. Well, to the extent that indicator variable
13:47:04	24	changes its stripe in the middle of the period, then,
13:47:08	25	you know, there's a -- it's not completely

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13:47:10	1	representative. Like the 90-day expiration date, all
13:47:14	2	right, can happen after two weeks of the four weeks.
13:47:17	3	So what you're reducing is the power of that variable
13:47:20	4	to explain variation in price.
13:47:23	5	Q. Suppose a consumer comes forward and presents
13:47:32	6	evidence that in the middle of the book -- in the
13:47:36	7	middle of the month they bought a book that was --
13:47:45	8	had just come off its 90-day period, new release that
13:47:50	9	had just come off its 90-day period. Typically
13:47:55	10	coming off the 90-day period for Amazon would result
13:47:58	11	in a higher e-book price, would it not?
13:48:01	12	A. Typically, yes.
13:48:02	13	Q. And the approach of your model will use data
13:48:07	14	based on averaging all of the transactions in that
13:48:09	15	month, correct?
13:48:10	16	A. That's correct.
13:48:11	17	Q. So as you just pointed out, it could be that
13:48:16	18	two weeks in the price might have gone up under the
13:48:20	19	Amazon pricing model, but your model will treat the
13:48:25	20	average price of that book throughout the month which
13:48:28	21	will give weight to the lower price before the price
13:48:34	22	hike kicks in.
13:48:36	23	A. It will give weight to both, but the average
13:48:39	24	will be in between. So those who bought before the
13:48:43	25	change occurred, their damages will be

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13:48:46	1	underestimated; and for ones that bought after, their
13:48:49	2	damages will be overestimated. But on average,
13:48:51	3	they'll cancel out.
13:48:53	4	Q. And some consumers who will not have been
13:48:59	5	injured directly under your methodology as a result
13:49:01	6	of that be in line to collect damages, correct?
13:49:04	7	MR. FRIEDMAN: Objection, form.
13:49:05	8	THE WITNESS: Well, that -- that's only true
13:49:08	9	if the predicted price in the next four-week period
13:49:11	10	would have been at or above the price they actually
13:49:14	11	paid. Because, you know, in the next period, nothing
13:49:20	12	else will have changed except now we have the full
13:49:22	13	effect of the post 90-day thing. So you're going to
13:49:25	14	have a different predicted price there. And they are
13:49:29	15	going to have zero damages as opposed to what they
13:49:33	16	get only if in that period you would have predicted
13:49:36	17	no anticompetitive harm for that category, and yet in
13:49:42	18	reality what the model is about is saying that there
13:49:45	19	will be anticompetitive harm for everybody. It just
13:49:48	20	will differ depending whether you're before 90 days
13:49:51	21	or after 90 days.
13:49:53	22	Q. Are you planning on taking that into account
13:49:55	23	or can you take that into account?
13:49:57	24	A. The way to take it into account, which would
13:50:02	25	require more work, a lot more time, would be to

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13:50:05	1	reduce the -- the time period for which the average
13:50:09	2	was taken down to a week or something like that, down
13:50:13	3	to something closer to the frequency of the changes
13:50:16	4	in the variables.
13:50:17	5	Q. And that is something that you could do.
13:50:28	6	A. It's something you can do with enough time,
13:50:30	7	sure. You have to reconstitute the aggregation of
13:50:35	8	the data. Rather than just rely on stuff that was
13:50:37	9	done in the liability phase, you'd have to actually
13:50:41	10	go back and reconstitute the aggregation from the
13:50:44	11	transactions record to average periods and do that.
13:50:47	12	MR. FRIEDMAN: Would you like to have us
13:50:48	13	incur that cost in the distribution phase? Just give
13:50:52	14	me a heads-up.
13:50:56	15	MR. SWANSON: I don't know what phase you get
13:50:58	16	to unless you meet the requirement of moving
13:51:01	17	something up. But we can debate that offline.
13:51:08	18	Q. Sitting here right now, obviously you don't
13:51:14	19	have your computer, nor would Mr. Friedman allow me
13:51:19	20	to make you run some calculations here live, but if I
13:51:23	21	gave you some hypothetical information about a
13:51:25	22	particular consumer purchasing on a particular day,
13:51:29	23	all of the information that corresponds to the
13:51:33	24	variables that you've used, would you be able to
13:51:35	25	figure out how your methodology calculates the

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13:51:39	1	overcharge for that consumer as you sit here without
13:51:42	2	using your computer?
13:51:43	3	A. I have no idea until you ask the question
13:51:46	4	because the question was sufficiently vague that I'm
13:51:48	5	not sure what's coming. So I'd hate to answer yes
13:51:52	6	and then not be able to answer the question or no and
13:51:56	7	then be able to answer it. So maybe you should try
13:51:58	8	and I can tell you whether that's sufficient
13:52:00	9	information for me to be able to answer it.
13:52:02	10	Q. Well, I mean, if I bought Ted Kennedy's book
13:52:07	11	True Compass on April 1st, 2010, and I bought it from
13:52:10	12	Apple, could you tell me what my -- how much I was
13:52:15	13	overcharged?
13:52:15	14	A. Yes.
13:52:16	15	Q. How much?
13:52:17	16	A. By plugging in the values associated with
13:52:21	17	that title into the regression equation, producing a
13:52:25	18	but-for price and then subtracting that from the
13:52:28	19	price you actually paid.
13:52:29	20	Q. If I told you what price hypothetically I
13:52:33	21	paid for that book, can you sitting here point me to
13:52:35	22	numbers in your report that would allow us to figure
13:52:38	23	that out? Or do you need a computer to do that?
13:52:41	24	A. Depends. There's nothing in the report that
13:52:46	25	would enable you to calculate it, but if I produce

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13:52:49	1	for you the 10,000-page computer dump of the but-for
13:52:55	2	price of every title in every month, then you could
13:52:59	3	just look at that and do it yourself.
13:53:01	4	Q. Well, you've answered my question. I
13:53:03	5	appreciate that.
13:53:05	6	A. Shall we take a break?
13:53:06	7	MR. SWANSON: Yeah.
13:53:07	8	VIDEOGRAPHER: We are now going off the
13:53:09	9	record, the time is 1:52.
14:16:07	10	(Deposition recess taken.)
14:16:07	11	VIDEOGRAPHER: We're now going back on the
14:16:19	12	record. The time is 2:15.
14:16:22	13	Q. MR. SWANSON: Professor Noll, you state in
14:16:25	14	your report that:
14:16:27	15	"Anticompetitive conduct by the
14:16:28	16	defendants caused prices to be higher for
14:16:30	17	e-books that account for 99.5% of e-book
14:16:36	18	sales by the publisher defendants."
14:16:40	19	Do you recall that?
14:16:40	20	A. Yes.
14:16:40	21	Q. How did you compute the 99.5 percent figure?
14:16:44	22	A. It's a fraction that are accounted for by the
14:16:49	23	actual price being above the predicted price.
14:16:51	24	Q. And did you make that computation at the
14:16:54	25	level of individual transactions?

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14:16:56	1	A. At the level of the four-week periods.
14:17:00	2	Q. And did you make that computation at the
14:17:04	3	level of the individual title?
14:17:06	4	A. It would be the -- let's see. What did we
14:17:15	5	do.
14:17:16	6	I've just forgotten sitting here whether it
14:17:27	7	was at the title or category level. I think it
14:17:30	8	was -- I just don't remember for sure.
14:17:32	9	Q. Let me assert that it was at the category
14:17:35	10	level.
14:17:35	11	A. I think it was, but I'm just having a main
14:17:39	12	memory block. I don't remember for sure.
14:17:40	13	Q. And if you calculated it at the category
14:17:44	14	level, in effect, what you did was compute the
14:17:47	15	average price effect within a category, and then to
14:17:51	16	the extent there was a price effect, you added up the
14:17:55	17	percentage of each of those categories to come up
14:17:59	18	with a 99.5 percent figure?
14:18:01	19	A. I think that the 99.5 percent figure is based
14:18:10	20	on the volume of sales, as I remember, as opposed to
14:18:13	21	a count of categories. You said a count of
14:18:15	22	categories, and I don't think it was.
14:18:16	23	Q. I agree it's not a count of categories.
14:18:19	24	A. Right.
14:18:20	25	Q. I was not being very precise. I think we're

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14:23:23	1	transaction in every day over the entire class
14:23:27	2	period, and that's the amount we get as the wealth
14:23:30	3	transfer.
14:23:30	4	Q. Is that the equivalent to the aggregate
14:23:34	5	damage figure of $307 million you've reported?
14:23:38	6	A. That's right.
14:23:39	7	Q. And --
14:23:40	8	A. Is that the right number? I think -- it's
14:23:43	9	not 307, is it? Isn't it a little less?
14:23:47	10	MR. FRIEDMAN: No, I think it is.
14:23:48	11	THE WITNESS: Is it 307?
14:23:50	12	MR. FRIEDMAN: Yeah.
14:23:51	13	MR. SWANSON: Back me up there.
14:23:52	14	MR. FRIEDMAN: Silly number, I know.
14:24:02	15	THE WITNESS: See what I have to put up with?
14:24:05	16	MR. SWANSON: You have to put up with.
14:24:11	17	Q. So focusing on that sentence, do you in your
14:24:19	18	work ever measure the elevation and price on a
14:24:25	19	specific day due to the collusive agreement model?
14:24:29	20	A. Well, I'm saying this is an in principle
14:24:32	21	statement. When you went back to the transactions
14:24:34	22	records to calculate damages for every single person,
14:24:37	23	you look at every single transaction on every single
14:24:39	24	day. You know, that's -- ultimately it's the
14:24:44	25	transactions record of a particular customer that

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14:24:47	1	determines that customer's damages.
14:24:49	2	Q. Let me ask you, if I can, about that process
14:25:00	3	of calculating specific individual damages. You
14:25:05	4	start out with a but-for price predicted by your
14:25:09	5	regression, correct?
14:25:10	6	A. Correct.
14:25:11	7	Q. And then you subtract that from the actual
14:25:18	8	transaction price.
14:25:20	9	A. The actual average transactional price in
14:25:22	10	that period, yes.
14:25:23	11	Q. And is that the way you're telling the Court
14:25:27	12	and the jury that individual damages should be
14:25:29	13	calculated in this case?
14:25:30	14	A. That's -- it could be done that way. It
14:25:34	15	could also be done at the individual transaction
14:25:36	16	level. Once you have the regression, you can do
14:25:41	17	either way. I mean, the regression is the formula.
14:25:45	18	Then how you choose to apply the formula can be
14:25:50	19	either at the level of the four-week period or at the
14:25:55	20	level of an individual transaction. That's just up
14:26:01	21	to how you decide to do it.
14:26:02	22	Q. The level of the individual transaction would
14:26:05	23	require a further computational exercise.
14:26:07	24	A. No, it's exactly the same computational
14:26:10	25	exercise. It's purely what value you're using as the

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14:26:13	1	transaction price, whether you're using the average
14:26:15	2	value or the individual transaction value.
14:26:18	3	You have a number that is calculated for
14:26:20	4	every book for every four-week period, and then what
14:26:24	5	you subtract it from for each person can be from the
14:26:28	6	transactions records or can just be for the actual
14:26:31	7	average price during that period.
14:26:33	8	Q. You were talking about the identification of
14:26:36	9	what the, quote/unquote, actual price is.
14:26:41	10	A. Yes. Not only that, but the starting place
14:26:46	11	is what books does somebody have. And you can either
14:26:50	12	look at the average price versus predicted price or
14:26:53	13	you can look at the actual transaction price versus
14:26:55	14	predicted price, either one.
14:26:59	15	Q. If you take a look at Footnote 21 on page 25,
14:27:05	16	you refer there to another procedure for calculating
14:27:12	17	damages.
14:27:14	18	A. I'm sorry.
14:27:15	19	Q. It's on page 25, Footnote 21.
14:27:18	20	A. What happened here?
14:27:24	21	Q. That's my question.
14:27:26	22	MR. FRIEDMAN: I think there is a pagination
14:27:28	23	issue, but anyway, go ahead.
14:27:31	24	THE WITNESS: Yes.
14:27:36	25	Q. MR. SWANSON: So what is that other

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14:27:38	1	procedure? Is that one you just referred to, taking
14:27:41	2	the average?
14:27:43	3	A. You use the model to predict the price with
14:27:46	4	and without collusion and look at the difference
14:27:49	5	between those two predicted prices as to damages.
14:27:52	6	Q. And did you use this method of calculating
14:27:56	7	damages?
14:27:56	8	A. No, I'm just describing what you could have
14:28:02	9	done, what could be done. This requires some
14:28:08	10	computational effort that we didn't undertake, but
14:28:12	11	it's fairly simple to do.
14:28:14	12	Q. Now, going back to the way you did do it,
14:28:25	13	your regression will give you a but-for price if you
14:28:27	14	throw the data in that correspond with a particular
14:28:33	15	transaction.
14:28:36	16	A. I'm sorry. It's late in the day.
14:28:39	17	Q. If you -- if we give you the necessary data
14:28:45	18	about a particular individual transaction, your
14:28:49	19	regression will spit out a but-for price, correct?
14:28:53	20	A. That's correct.
14:28:54	21	Q. And then you would then suggest that that
14:28:57	22	but-for price be compared to the actual transaction
14:29:00	23	price. The difference is the overcharge damage.
14:29:03	24	A. Yes, or you could use the predicted value as
14:29:08	25	well as the basis for calculating the damage.

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15:18:10	1	A. I was aware that reports on that issue had
15:18:15	2	been submitted, but I wouldn't have been able to give
15:18:18	3	you his name had you asked me for it.
15:18:20	4	Q. Are you familiar with Professor Wickelgren's
15:18:26	5	work as an economist?
15:18:27	6	A. No.
15:18:27	7	Q. Have you heard of him before in the academic
15:18:30	8	context?
15:18:31	9	A. No.
15:18:32	10	Q. I take it you have no insight as to whether
15:18:36	11	he's an expert on anything?
15:18:44	12	A. I'm sure he's a fine fellow and kind to his
15:18:49	13	mother. Okay? I don't know him. So I can't really
15:18:55	14	say anything one way or the other about them.
15:18:58	15	Q. That means you haven't read any of his
15:19:01	16	billion academic papers.
15:19:04	17	A. Regardless. Not even his guffaws. I'm not
15:19:08	18	familiar with the name. That doesn't mean that if I
15:19:11	19	looked at his CV I wouldn't recognize something. It
15:19:13	20	just means that I don't know. What is there about I
15:19:17	21	don't know --
15:19:18	22	Q. You can only do that once. It loses its
15:19:31	23	force.
15:19:32	24	So you have no knowledge as to whether or not
15:19:44	25	Professor Wickelgren has developed a reliable basis

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15:19:47	1	for estimating damages in this case.
15:19:51	2	A. No.
15:19:51	3	Q. And you're not the least bit curious about
15:19:55	4	what he's done?
15:19:56	5	MR. FRIEDMAN: Objection, form.
15:19:57	6	THE WITNESS: Yeah, I don't know -- no, I'm
15:20:08	7	not curious, no. Curious is the wrong word.
15:20:16	8	MR. FRIEDMAN: I think you've answered the
15:20:18	9	question.
15:20:19	10	THE WITNESS: I don't have any great desire
15:20:25	11	to study his work, no.
15:20:26	12	Q. MR. SWANSON: And if -- if I represent to you
15:20:28	13	that there is a 40 percent difference in the
15:20:33	14	calculated damages, that doesn't stimulate you to
15:20:37	15	look further into his work?
15:20:39	16	MR. FRIEDMAN: Objection, form.
15:20:41	17	THE WITNESS: I mean, if someone asked me to
15:20:49	18	undertake a study of his report to figure out why he
15:20:53	19	got the number he did, I would do that. But I have
15:20:57	20	not been asked to do it and I don't have any great
15:21:00	21	desire to do it. But if somebody asked me to do it,
15:21:04	22	I'd do it.
15:21:06	23	Q. MR. SWANSON: If you were told that another
15:21:08	24	economist had studied the same issues that you had
15:21:11	25	and had come up with a wildly different estimate of

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15:21:14	1	damages, would that lead you to be more concerned
15:21:19	2	about your own methodology at all?
15:21:23	3	MR. FRIEDMAN: I'm going to object and I also
15:21:24	4	don't think, Dan, in fairness, that that's an
15:21:26	5	accurate representation and a fair one, given the
15:21:30	6	fact that the doctor has not looked at it and I don't
15:21:35	7	think it's accurate.
15:21:36	8	So if you're representing that Dr. Wickelgren
15:21:39	9	was doing the exact same thing for the exact same
15:21:43	10	purposes, which was the implication of question, I
15:21:47	11	think that's misleading. And I don't think you
15:21:49	12	intended to, but I just don't think that's a fair
15:21:53	13	presentation to Roger. Excuse me. To Dr. Noll.
15:21:56	14	THE WITNESS: I forgot the question.
15:21:57	15	Q. MR. SWANSON: Well, my question is as an
15:21:59	16	economist, if you learned that another economist had
15:22:04	17	looked at the same issue that you had and had come up
15:22:07	18	with a conclusion that was 40 percent off of the
15:22:14	19	number that represented your own conclusion, would
15:22:17	20	that give you any pause, leading you to reconsider
15:22:20	21	your own methodology?
15:22:22	22	MR. FRIEDMAN: Objection, form.
15:22:24	23	THE WITNESS: Only if they had done exactly
15:22:25	24	the same thing in exactly the same context. I mean,
15:22:29	25	how could they possibly have done the same thing a

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15:22:32	1	year before the opinion was offered? All right? I
15:22:37	2	mean, I'm relying upon the outcome of the liability
15:22:40	3	phase. He's not.
15:22:44	4	So he's in a -- he's in a state of much
15:22:47	5	different information than I am. So it would be
15:22:49	6	irrelevant what he did at that state of information.
15:22:51	7	Q. MR. SWANSON: As an academic economist, when
15:22:57	8	you work in a particular area and form opinions or
15:23:01	9	theories, do you normally canvass the work of other
15:23:05	10	economists in the area first?
15:23:07	11	MR. FRIEDMAN: Objection, form.
15:23:08	12	THE WITNESS: In peer reviewed journals, yes.
15:23:10	13	In expert reports in antitrust cases, no. I don't
15:23:14	14	read people's antitrust declarations to inform my
15:23:17	15	research that I'm going to try to publish in an
15:23:20	16	economics journal.
15:23:21	17	Q. MR. SWANSON: If Dr. Wickelgren was an
15:23:30	18	economist whose work you were familiar with, would
15:23:33	19	that make you more likely to review the work on
15:23:36	20	damages he's done in this case?
15:23:37	21	MR. FRIEDMAN: Objection, form.
15:23:39	22	THE WITNESS: My lack of interest in what he
15:23:42	23	has to do is not with respect to his name. It's with
15:23:45	24	respect to the timing and circumstances, that what
15:23:50	25	happened then before the record was developed in the

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15:29:56   1   subject of dead-weight loss, you made reference to
15:30:01   2   Dr. Ashenfelter's finding that the average increase
15:30:04   3   in prices for the publisher defendants relative to
15:30:07   4   Random House titles was 16.8 percent and the relative
15:30:11   5   decline in unit sales was 14.5 percent.
15:30:14   6         Do you recall that?
15:30:14   7   A.    Yes.
15:30:15   8   Q.    And for purposes of that discussion, you
15:30:19   9   assumed that Random House provides a competitive
15:30:23  10   benchmark for prices of sales in e-books that were
15:30:27  11   sold by the publisher defendants during the agency
15:30:30  12   period?
15:30:30  13   A.    Yes.
15:30:30  14   Q.    Is that anything more than an assumption for
15:30:35  15   purposes of discussing dead-weight loss or --
15:30:38  16   A.    No, that discussion is premised on sort of
15:30:40  17   average values.  It wouldn't apply to any particular
15:30:46  18   publisher, any particular title or any particular
15:30:50  19   thing.  It's just an average across all of them.
15:30:53  20   Q.    You state in your report, and I think this is
15:31:02  21   at page 12, that:
15:31:03  22         "...the Court found that 'it is
15:31:05  23         abundantly clear, and not surprising, that
15:31:07  24         each of the Publisher Defendants lost sales
15:31:10  25         of e-books due to the price increases.'"
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15:31:12   1   A.    Where are you?
15:31:13   2   Q.    I am at page 12.
15:31:28   3         MR. FRIEDMAN:  Last sentence, page 12.
15:31:30   4         MR. SWANSON:  Hmm?
15:31:31   5         MR. FRIEDMAN:  Last sentence page 12.
15:31:33   6         MR. SWANSON:  Thank you.
15:31:33   7         MR. FRIEDMAN:  You're welcome.
15:31:34   8         THE WITNESS:  You're reading a quote from the
15:31:36   9   opinion.
15:31:36  10   Q.    MR. SWANSON:  Yes, where you're --
15:31:39  11   A.    I'm quoting the opinion here and you read the
15:31:41  12   quote.  I didn't recognize those as the way I would
15:31:43  13   write something.  So that's why I asked for the
15:31:46  14   citation because it sounded to me like I was quoting
15:31:49  15   somebody else.
15:31:49  16   Q.    Yeah, I appreciate that.  Now, is it your
15:31:52  17   understanding that the Court quantified the amount of
15:31:55  18   sales of e-books that were lost by the publisher
15:31:58  19   defendants?
15:31:58  20   A.    No, the reason I didn't proceed to this
15:32:01  21   exercise is to use the data that the Court cited to
15:32:04  22   produce an illustrative calculation.
15:32:07  23   Q.    And are you able to identify a particular
15:32:11  24   quantity of lost sales for purposes of your analysis?
15:32:16  25   A.    I don't understand the question.  The
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15:32:19   1   calculation is an overall estimate of the decline in
15:32:23   2   sales arising from the price increase based on the
15:32:25   3   data in the opinion.  It's nothing more and nothing
15:32:29   4   less.  So I don't know what beyond that you think it
15:32:31   5   might be that I was attempting here.
15:32:34   6   Q.    Let me ask you to turn back to Exhibit 4.
15:32:50   7   A.    Back to the computer program.
15:32:52   8   Q.    Right.  Can you confirm that this is the
15:32:58   9   Stata code that runs your model?
15:33:00  10   A.    Well, it's been represented to me as such.
15:33:03  11   I'm not the one who actually ran the model, so --
15:33:08  12   but, yes, I've been told that it is.
15:33:10  13   Q.    Can you program in this software language?
15:33:12  14   A.    I could.  I don't know that I could do it
15:33:14  15   today because I now rely upon my research assistants
15:33:17  16   to do it.
15:33:17  17   Q.    When was the last time you coded in this
15:33:20  18   software language?
15:33:21  19   A.    A while.  A long time ago.  Several years.
15:33:24  20   Q.    Let me ask you to turn to line 77.  Do you
15:33:42  21   see the merge command in there?
15:33:43  22   A.    Yeah.
15:33:44  23   Q.    Your program is merging the data here,
15:33:47  24   correct?
15:33:47  25   A.    That's right.  Creating a larger data set
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15:33:50   1   from smaller data sets.
15:33:51   2   Q.    Can you identify what kind of data was merged
15:33:54   3   here?
15:33:54   4   A.    No, I don't remember what all these mnemonics
15:34:00   5   refer to.  There was a time when I knew, but I don't
15:34:06   6   remember what the mnemonics mean now.
15:34:09   7   Q.    Let me ask you to turn to line 181.  Can you
15:34:29   8   tell me what that does?
15:34:34   9   A.    Well, this is simply stating all the
15:34:36  10   variables that are to be included in a regression;
15:34:39  11   and if, again, you're going to ask me how the
15:34:49  12   mnemonics correspond to the actual variables, I don't
15:34:53  13   remember.
15:34:53  14   Q.    So you can't -- is it true you just don't --
15:34:56  15   you don't know or you don't remember?  I mean, in
15:34:58  16   other words, did you -- were you involved in --
15:35:01  17   A.    In naming the variables, no.  I was involved
15:35:04  18   in telling them what variables to include, and some
15:35:06  19   of them are obvious.  Like under 90 days is a fairly
15:35:10  20   obvious mnemonic, but others are not obvious.  Again,
15:35:15  21   I'm not going to remember from memory what they all
15:35:19  22   are.
15:35:19  23         What my role was to describe in words the
15:35:23  24   variables to go in the regression and then to be
15:35:25  25   certain that that's what the regression output
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15:35:28	1	contained. It wasn't to write the code and to name
15:35:30	2	the variables in the code.
15:35:31	3	Q. Can you tell me what calculation is being
15:35:36	4	performed in line 1 and 2?
15:35:37	5	A. I think -- I'm not sure, but I think what
15:36:22	6	they're doing here is calculating the difference in
15:36:26	7	the predicted collusive price and the but-for
15:36:32	8	collusive price.
15:36:34	9	Q. How uncertain are you?
15:36:36	10	A. I don't know what -- I said I'm doing the
15:36:39	11	best I can, but obviously I cannot remember what this
15:36:42	12	particular line of code does. I don't remember -- I
15:36:47	13	don't even think I may have ever known what
15:36:50	14	particular line of code made which particular
15:36:53	15	calculation. So I've never examined this code on a
15:36:56	16	line-by-line basis to try to figure out what every
15:36:59	17	single line does.
15:37:00	18	Q. This -- this is the implementation of your
15:37:05	19	regression model, correct?
15:37:07	20	A. Yes.
15:37:08	21	Q. And this is what a jury would have to endorse
15:37:11	22	in order to calculate on your view individual damages
15:37:15	23	for the members of the class and the consumers in the
15:37:18	24	plaintiff states?
15:37:19	25	MR. FRIEDMAN: Objection, form.

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15:37:21	1	THE WITNESS: This code implements the
15:37:24	2	regression model that I instructed the people working
15:37:28	3	for me at Ashenfelter & Ashmore to undertake.
15:37:35	4	Remembering the specific names -- what all the
15:37:38	5	specific names refer to, I'm not going to be able to
15:37:40	6	do that and I'm not going to attempt to. It's not
15:37:45	7	that -- in my task.
15:37:47	8	Q. MR. SWANSON: So if I go through line 209 or
15:37:50	9	any of the other hundred and 20 possible variables
15:38:00	10	that are reflected in here --
15:38:05	11	A. A lot of them are obvious. You're picking
15:38:07	12	things that are especially inobvious. All right?
15:38:11	13	And so -- of course. You know, you hand me something
15:38:15	14	with a long list of variables in it, I'm not going to
15:38:19	15	remember everything in it by memory. I'd be foolish
15:38:21	16	to even try.
15:38:22	17	Q. What is 209?
15:38:24	18	A. I haven't looked at it yet. I have no idea
15:38:46	19	what that is.
15:38:47	20	Q. Going back to line 192, you testified that
15:38:53	21	you calculated actual minus predicted price, right?
15:38:57	22	A. Yeah, that -- the actual minus predicted is
15:39:03	23	what's in the report because I told you earlier there
15:39:06	24	is this alternative way that this was an estimate of
15:39:10	25	it. There was also an estimate of it made, but it

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15:39:13	1	wasn't the correct way to do it. So it's not
15:39:16	2	reported.
15:39:16	3	Q. Well, isn't line 192 but-for minus predicted?
15:39:22	4	A. Yeah, but the but-for is a prediction. I
15:39:27	5	mean the but-for price is the price that would
15:39:30	6	pertain in the absence of collusion, and so it has to
15:39:35	7	be estimated.
15:39:35	8	Q. Yes. And I said is this not calculating the
15:39:39	9	but-for price minus the predicted actual price.
15:39:43	10	A. Predicted is the crucial word. It's not the
15:39:47	11	actual price. It's the predicted price. I mean, I'm
15:39:51	12	not certain that that mnemonic refers to this because
15:39:56	13	I don't know what mnemonic was assigned to, A, the
15:40:00	14	actual price or, B, the predicted actual price after
15:40:04	15	collusion. So I don't know what terminology was used
15:40:07	16	in communicating with the computer to convey the
15:40:13	17	notion of calculating the damages.
15:40:15	18	So I just don't remember what -- and I -- I
15:40:19	19	did see such a list a long time ago, but I certainly
15:40:23	20	didn't attempt to memorize it.
15:40:24	21	Q. Is it possible that the coding implemented
15:40:27	22	your methodology in a different way than you
15:40:29	23	intended?
15:40:30	24	A. It's perfectly conceivable, but -- I can
15:40:36	25	certainly ask them and find out if they screwed up

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15:40:39	1	and didn't do what I told them to do. That's
15:40:42	2	certainly a possibility.
15:40:43	3	Q. And who would be the person to ask that?
15:40:47	4	Would that be Mr. Ashmore?
15:40:49	5	A. Well, would be three or four people, but he'd
15:40:52	6	be the one I asked first, yes.
15:40:54	7	Q. And he was the one you relied upon to
15:40:56	8	faithfully implement your methodology?
15:40:58	9	A. Well, they're all being relied on. I mean,
15:41:01	10	that's not fair. Everybody's relied on, including
15:41:06	11	Orley Ashenfelter. He was involved with this as
15:41:10	12	well.
15:41:10	13	Q. Do you hold any opinions to which you intend
15:41:19	14	to testify at trial that were not set forth in your
15:41:22	15	declaration or discussed in this deposition?
15:41:23	16	A. I don't think so. You might try me, but I
15:41:26	17	think I've expressed all my opinions.
15:41:29	18	Q. It has been your intent to disclose them all
15:41:31	19	in your report and answer my questions obviously
15:41:35	20	today.
15:41:36	21	A. Yes, I have attempted to answer -- to
15:41:39	22	disclose everything that I have done, all the
15:41:41	23	opinions that I have.
15:41:43	24	Q. Do you have any plans to revise your
15:41:46	25	declaration as you sit here today?

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15:41:48	1	A. No.
15:41:50	2	Q. **Do you have any other plans in connection**
15:41:53	3	**with your assignment in this case?**
15:41:55	4	A. Well, my expectation is I'll be asked to
15:42:00	5	comment on the reports of your experts, but I don't
15:42:03	6	know that for certain until it happens.
15:42:05	7	Q. **Have you seen any economic evidence that**
15:42:09	8	**contradicts any of your opinions in this case?**
15:42:10	9	A. I've seen statements by your economist that
15:42:16	10	contradicts some of the things in here, but aside
15:42:19	11	from that -- also things in legal briefs that
15:42:22	12	contradict it, but I've never -- that's the extent of
15:42:25	13	it.
15:42:25	14	Q. **Do you know of any way to test the validity**
15:42:28	15	**of your opinions other than the work that you've**
15:42:29	16	**already done?**
15:42:30	17	MR. FRIEDMAN: Objection, form.
15:42:32	18	THE WITNESS: That's a really broad question.
15:42:46	19	I don't know how to answer that. It's too broad. It
15:42:49	20	would have to be more specific. I'm not sure how to
15:42:52	21	answer it.
15:42:52	22	Q. **MR. SWANSON: Is there any data or**
15:42:54	23	**information suggested by economic theory that you**
15:42:56	24	**would like to have assembled before reaching your**
15:43:00	25	**opinions but which was simply not available?**

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15:43:02	1	MR. FRIEDMAN: Objection, form.
15:43:08	2	THE WITNESS: Well, all economists always
15:43:09	3	want more data, and certainly data linking customers
15:43:14	4	would be valuable.
15:43:19	5	Are there any independent variables that are
15:43:26	6	not available that I wish I had? I can't think of
15:43:29	7	any sitting here. I don't recall having asked for
15:43:31	8	any that where they didn't show up or there was said,
15:43:41	9	no, well, that's available but we don't have it or
15:43:44	10	something like that, no. I think we've done as good
15:43:46	11	a job as we can given the data we have.
15:43:48	12	MR. SWANSON: Can we take a last pause? What
15:43:54	13	the heck.
15:43:55	14	VIDEOGRAPHER: We are now going off the
15:43:57	15	record, the time is 3:43.
15:58:34	16	(Deposition recess taken.)
15:58:35	17	VIDEOGRAPHER: We're now going back on the
15:58:47	18	record. The time is 3:58.
15:58:49	19	Q. **MR. SWANSON: Professor Noll, I just wanted**
15:58:51	20	**to make sure we had a complete list of the economists**
15:58:56	21	**who supported you in your work in this case. We**
15:59:01	22	**talked about that at the beginning. I think you**
15:59:03	23	**mentioned in a recent response that Professor**
15:59:08	24	**Ashenfelter was also someone who gave you some**
15:59:11	25	**assistance in this matter.**

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15:59:13	1	A. I wouldn't call him support. Orley's an old
15:59:17	2	friend and I talked to him about it, yes. And he
15:59:20	3	provided input to the -- in responding to my ideas
15:59:25	4	about estimating models.
15:59:27	5	Q. **Say hello to him for me, by the way.**
15:59:30	6	A. Okay.
15:59:31	7	Q. **Is there anyone else, whether support or**
15:59:35	8	**input that --**
15:59:39	9	A. Well, there are several peoples in both firms
15:59:42	10	who have been involved in it, but I had people in
15:59:45	11	each one that I relied upon as the person that I
15:59:47	12	would talk to, and that was David and Jeff. So there
15:59:54	13	were others that would be involved, but those are the
15:59:57	14	ones I communicated through.
15:59:59	15	MR. SWANSON: All right. That is it for me.
16:00:01	16	MR. FRIEDMAN: No questions.
16:00:02	17	MR. SWANSON: Thank you.
16:00:03	18	VIDEOGRAPHER: This now concludes the
16:00:07	19	videotaped deposition of Roger Noll on November 1st,
16:00:14	20	2013. We are now going off the record. The time is
16:00:20	21	4:00 o'clock.
	22	--o0o--
	23	(Whereupon, the deposition was adjourned at
	24	deposition adjourned at 4:00 p.m.)
	25	

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1	
2	STATE OF _____)
3	) :ss
4	COUNTY OF _____)
5	
6	
7	I, ROGER G. NOLL, Ph.D.,
8	the witness herein, having read the foregoing
9	testimony of the pages of this deposition,
10	do hereby certify it to be a true and
11	correct transcript, subject to the
12	corrections, if any, shown on the attached
13	page.
14	
15	_____
16	ROGER G. NOLL, Ph.D.
17	
18	
19	
20	Sworn and subscribed to before me,
21	this _____ day of _____, 201_.
22	
23	_____
24	Notary Public
25	